

THE CENTER FOR RAY BRADBURY STUDIES WHITE PAPER

Preservation Planning Report for the Center for Ray Bradbury Studies

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Table of Contents

OVERVIEW	4
ACCOMPLISHMENTS	4
OBJECTIVES.....	4
Project Leadership, Oversight, and Decision-Making Processes	5
MAJOR ACTIVITIES.....	5
<i>Project Timeline</i>	5
SIGNIFICANT RESULTS.....	7
<i>Context: Scope of the Center's Collections</i>	7
<i>Findings: Results from the On-Site Consultation</i>	7
Findings 1: Physical Preservation Plan	7
Findings 2: Digital Preservation Plan.....	14
Findings 3: Research and Collection Access Policies	15
Findings 4: Processing Plan Priorities by Material Type	16
Findings 5: Exhibits.....	22
<i>Developments: Site Visits</i>	23
Marion E. Wade Center, Wheaton College	24
Wade Center Key Takeaway: Staffing	24
The J. R. R. Tolkien Collection at Marquette University.....	24
Russell Kirk Center for Cultural Renewal.....	26
The Great American Songbook Foundation	27
PARTICIPANTS AND OTHER COLLABORATING ORGANIZATIONS.....	29
KEY PERSONNEL	29
Project Director.....	29
Paid Staff.....	29
Outside Consultants.....	29
ORGANIZATIONAL PARTNERS.....	30
OTHER COLLABORATORS OR CONTACTS.....	30
IMPACT	30
EXPANSION AND RENOVATION.....	31
<i>Projected Long-term Impact</i>	31
APPENDICES	33

APPENDIX A: DISASTER PREPAREDNESS—EQUIPMENT HIRE AND EMERGENCY
MACHINERY 33

APPENDIX B: BASIC HANDLING PROCEDURES..... 35

APPENDIX C: STORAGE MODEL 35

APPENDIX D: DIGITAL SELECTION CRITERIA..... 36

Digital Selection Criterion 1: Decide.....36

Digital Selection Criterion 2: Deploy.....39

Digital Selection Criterion 3: Digitize.....41

Digital Selection Criterion 4: Describe41

Digital Selection Criterion 5: Deposit41

Digital Selection Criterion 6: Display.....42

OVERVIEW

The Center for Ray Bradbury Studies, located within the IU School of Liberal Arts at Indiana University-Purdue University Indianapolis (IUPUI), is one of the larger single-author archives in the United States. The Center serves as a hub for scholarship and public outreach for Ray Bradbury and the numerous disciplines of literature and American culture in which he worked. The Center operates as an archive, museum, and research center with a strong emphasis on public programming and outreach.

In April 2018, the National Endowment for the Humanities awarded the Center for Ray Bradbury Studies (referred to hereafter as “CRBS”, or “Center”) a \$50,000 Preservation Planning Grant. This grant funded a year-long, rigorous applied research project overseen by the Project Director Dr. Jonathan Eller (Director of the Center for Ray Bradbury Studies) and conducted by Project Manager Jason Aukerman (Managing Director, Center for Ray Bradbury Studies). The project unfolded in two phases. The first phase involved an intensive four-day on-site consultation in which five professional archivists and preservation experts (referred to as the NEH consultants) from across the Midwest visited CRBS and examined its collections and policies related to: artifacts, manuscripts, correspondence, physical layout, access, operational procedures, and environmental/climate control for artifacts. Following their visit, the consultants prepared reports based on these subjects and submitted them to the Project Manager, who consolidated the information at the end of this phase of the project. During the second phase, the Project Manager embarked on a number of site visits to peer institutions to tour facilities, interview directors and archivists about best practices, and establish a plan for adapting the best practices of other institutions to the Center for Ray Bradbury Studies, in both current and future contexts.

Collectively, this team of professional experts provided direction and guidelines for the Center’s formal preservation planning project as conceived under the NEH Preservation Planning grant application. Activities included early stage development of policies, plans, and procedures that will assist in the governing, planning, and maintenance of the collection. The on-site consultation team identified objectives, goals, and strategies for addressing the preservation needs of the sizable collection, aiding in systematically moving forward with curatorial initiatives, and planning for general organizational development. The collective findings from this year-long investigation will serve as the basis for a collections management policy, collections development policy, research/access policies, handling guidelines, procedures manual, processing plan and priorities, housekeeping guidelines, and exhibit policies. All of these materials are currently in advanced draft stage development as of July 2019 and upon completion will exist as permanent “living documents” evolving alongside the development of the Center as future funding and spatial expansion necessitate revisions.

ACCOMPLISHMENTS

Objectives

The major goals of the Preservation Planning Project were to seek expert advice in preservation, access, and other relevant procedures which will support the Center for Ray Bradbury Studies’ mission to preserve and curate the legacy of Ray Bradbury for generations to come. These archival and public access

initiatives are crucial for the Bradbury Center's work to fully accession and preserve its collections, and its plans to evolve into a nationally recognized museum, archive, and outreach center through renovation and expansion of its physical location.

The need for a full-range preservation and strategic growth plan was identified in a Preservation Needs Assessment conducted in 2016 by Dyani Feige, Director of Preservation Services at the Conservation Center for Art and Historic Artifacts (Philadelphia, PA). After an on-site assessment, the Director of Preservation Services completed a report that noted the need to "create a processing or cataloging plan to address increasing intellectual control over the contents of the [original] filing cabinets and Bradbury's office installation. Initiate an accurate and descriptive inventory, and, correspondingly, create a database in which inventory and catalog records can be stored." This assessment report further advised that after an initial year of prototype accessioning, the Bradbury Center should undertake "the writing and implementation of a Collections Management Policy to guide the care and management of the collections."

Project Leadership, Oversight, and Decision-Making Processes

This project was led by Project Director Jonathan Eller and Project Manager Jason Aukerman. The corresponding white paper was compiled, written, and edited by Aukerman in collaboration with the NEH consultants and Dr. Eller, with the final version fulfilling the requirements for the NEH Preservation Planning Grant while serving as part of his doctoral research. All recommendations by the consultants were evaluated by Eller and Aukerman prior to any decision making, and the Development Office at the School of Liberal Arts (where the Bradbury Center is housed) was periodically consulted. Progress e-mails were provided to the NEH Division Director for this grant, Dr. Ralph Canevali (now retired). The resulting white paper details the combined recommendations of the expert consultants regarding expansion, renovation, archival accessioning, artifact preservation, database documentation, digital imaging, and collections management. These evaluations are based on the consultants' initial reviews of the collection space and environment, taking into consideration the nature of the Center's collections, including material types. This report also details lessons learned by CRBS staff in terms of the hardware and software tools used in the current prototype sample and any further pilot samples undertaken (with consultant oversight) during the NEH grant period. Concluding sections of this report describe the way forward under the overall collections management policy, and any adjustments made as the preservation work is modified and extended into the next phase of the overall collection development in 2019 and 2020.

Major Activities

Project Timeline

May 2018:

Five experts (four external) were identified for participation as consultants. Two of these individuals eventually dropping out of this project due to changes in employment, and the final consulting team represented Albion College Special Collections, The Marion E. Wade Center at Wheaton College, The Great American Songbook Foundation, the Indiana State Historical Society Preservation Division, and the IUPUI University Library's Center for Digital Scholarship.

June-July 2018:

The Project Manager arranged travel for the two out-of-state consultants, compensation for all five consultants, and coordinated calendars to convene a four-day, on-site review and planning workshop with the consultants and project team in mid-August. The Project Manager also made a preliminary site visit to the Great American Songbook Foundation and established protocols for other site visits conducted as part of the research for this report.

August-September 2018:

The consultant team convened in Indianapolis for a four-day (August 8-11) visit to the Center for Ray Bradbury Studies and to engage in an in-depth preservation planning workshop. The Project Director and Project Manager conducted a comprehensive tour and review of the Center's current space and environmental conditions, as well as its work to catalog, digitize, and preserve its collections. The team investigated the methodologies and standards for preservation and access and identified institutional precedents and/or protocols that may affect future accessioning and digitizing projects for the collection. On the final day of the workshop, consultants split up into teams based on professional expertise, including archival management, preservation, and digitization. Each team focused on a specific aspect of the preservation planning project, drafting a set of written recommendations by category. These written recommendations were submitted to the Project Manager on September 19, 2018.

October 2018:

The Project Manager compiled, edited, and revised the written recommendations provided by the consultants. (These recommendations are outlined in the "Findings: Results from On-Site Consultation" section of the report, and the Center's response to these recommendations is outlined in the "IMPACT" section.) At the end of the month, the Project Manager embarked on a two-day intensive site visit to The Marion E. Wade Center at Wheaton College and a one-day visit to the J.R.R. Tolkien Collection at Marquette University.

November 2018:

The Project Manager conducted the final NEH-funded site visit to the Russell Kirk Center for Cultural Renewal in Mecosta, Michigan. Two weeks later, an overview of the emerging plan was shared with the project team, project consultants, the Bradbury Center's advisory board, organizational partners, and the School of Liberal Arts' Development Office for review and additional input. Feedback on this initial plan was positive, with many respondents expressing interest in learning more about the project as it continued to unfold, particularly in regard to optimal models of preservation plans and the component procedures and policies, best digitizing practices and procedures, and guidance on stages of overall implementation for the Center's collections.

December 2018-February 2019

With the site visits completed, the Project Manager shifted focus to developing a comprehensive report on the workshop discussions and the results of the peer institution site visits, detailing the combined recommendations of the team and consultants in the targeted areas: archival accessioning, artifact preservation, database documentation, digital imaging, and collections management.

As various sections of the report were drafted, the Project Manager disseminated drafts of specific sections of the report to the Project Director (Eller) and key members of the consultant team (Schmidt, Seidler, and Lobdell) for review and feedback.

March-May 2019:

The Project Director and Project Manager began working with the Development Office on a grant application for the NEH Infrastructure and Capacity Building Challenge Grant. This renovation and

expansion project will fully implement the preservation plan created for the NEH Preservation Planning Grant project. The Center's newly drafted collection management policy was used to modify its annual renewal applications for the 2019 grant application cycles.

March-July 2019:

The Project Manager began working with the Project Director to finalize the grant report and corresponding white paper.

Significant Results

Context: Scope of the Center's Collections

The 2018 NEH Preservation Planning Grant provided the financial resources for the Center to focus on how to best preserve and provide access to its vast collections, much of which relate to 20th century American cultural history. Between Bradbury's working library, thousands of pages of correspondence between Bradbury and 20th century leaders (including presidents, NASA administrators, film directors, and cultural leaders like Walt Disney), and some of his many awards, the Center's collections document the life of a primary visionary of the American Space Age.

The preservation, organization, and digitization of these artifacts will be transformative for researchers of American popular culture. Moreover, it will meaningfully advance the study of Ray Bradbury himself, as many universities with smaller Bradbury collections will be able to better utilize the full collection of the Center, leading to greater levels of public outreach. However, this would not have been possible without the full preservation and collection management planning, including the invaluable consultant visits, that the NEH Preservation Planning Grant supported.

Findings: Results from the On-Site Consultation

The following section was written in collaboration with the NEH Consultant Committee based on their experiences and findings during their visit to the Center for Ray Bradbury Studies in August 2018. Contributors were compensated for their intellectual contributions via funds from the NEH Preservation Planning Grant awarded to Center for Ray Bradbury Studies in May 2018. Information and credentials for all of the consultant team members is available in the "KEY PERSONNEL" section of this report.

Findings 1: Physical Preservation Plan

The consultants noted CRBS' need for an institutional collections plan that clearly identifies the types of artifacts that are to be included in a collection and how to best care for these artifacts. The preservation plan is an integral component of the overall institutional collections plan, and establishes measures that will ensure the long-term preservation of materials, understand and examine the general and specific needs of the collection, develop ongoing preventive care, and identifying short- and long-range goals for improving at-risk objects. The plan starts by establishing several steps that significantly aid in preserving collections:

Preservation Plan Item 1: Facility and Space Use

Professional museum and archival standards recommend adequate space to safely grow, manage, store and provide access to collections. CRBS' 1,500 square foot location within Cavanaugh Hall on IUPUI's campus is completely overcrowded by its collections, causing urgent concerns for the safety of staff, patrons, and the collection itself. The NEH consultant team unanimously agreed that in order to ensure the long-term preservation of its collections, CRBS will need to expand its spatial perimeter to include dedicated spaces for collection storage, preservation, processing, exhibit galleries, and scholarly research.

The consultants recommended that the Center create a facility planning document as part of its overall strategic plan. This document should outline adequate square footage for secure collections storage, preservation and processing, a reference library and reading room, office spaces, exhibits, and security and environmental controls. They also recommended that the Center try to find adequate space for its collections on the IUPUI campus but recognized that an off-campus site may be necessary based on availability. Having appropriate space is absolutely critical, otherwise CRBS will not be able to expand, secure, and preserve its collections, and the Center will have to work with campus leaders, experienced architect and design firms, local peer organizations, and advancement staff to design and fund this much-needed expansion.

Preservation Plan Item 2: Environment

While CRBS staff members have worked to improve the collection's environment, many factors remain beyond their control. Further steps to monitor and control the Center's environment at appropriate levels for its collections must be established, but this can only be done with cooperation of IUPUI Campus Facility Services and Information Technology Services. The consultant team identified five primary environmental control priorities:

1. Environmental Set Points Based on a Seasonal Module:

The preservation of a mixed archival collection comprised primarily of paper requires control of both temperature and relative humidity (RH) according to archival standards that are based on a seasonal model. Improvements or adjustments in how the system is used or manipulated may need to be considered to adhere to the seasonal schedule and the functionality of the HVAC system. Initial set points are:

Spring/Summer:

68° F

52% RH +/-7.5 allows an acceptable range of 45-60% RH over 12-hour period

Fall/Winter:

68° F

42% RH +/- 7.5 allows an acceptable range of 35-50% RH over 12-hour period

At the beginning of each season, changes to set points should be staged over the course of 48 hours. In order to accomplish this, the consultant team recommends:

- Employing a series of monitoring devices known as “data loggers” in order to track the changes in temperature and relative humidity. These records can be wirelessly downloaded and reviewed by staff to check conditions of all collection storage and use areas.¹
- Upgrading the Center’s environmental control system. Any current or planned collections storage or use areas may be set to museum standards with localized ductless units designed to condition a specific amount of space. This type of unit is a supplemental system, which will allow the Center to monitor and change its temperature and relative humidity independent of Cavanaugh Hall, ensuring a higher level of control and safety for the Center’s collections.²
- Anticipating and taking advantage of future technology leaps to upgrade interior environments with the installation of Mitsubishi light commercial ductless split heating and AC units.³

2. Measuring Light Levels

The consultant team recommended procuring a visible light meter⁴ to measure light levels in the Bradbury Center. Light energy of any kind will accelerate the deterioration of many artifacts, particularly paper, organic dyes, pigments, textile and plant fibers and plastics. Of these, 20th century paper is particularly vulnerable; lignified paper pulp reformatted or copy papers such as the ones housed in CRBS are easily damaged by ultraviolet light and illumination higher than 5-foot candle or 50 LUX.

While controlling the composition and intensity of natural light can be difficult, CRBS’ location in a windowless environment provides an advantage on this front. However, this advantage is effectively negated by the collection’s location in the Center’s primary work area, which is used for processing, meetings, and hosting tours. As all of these activities require that Center staff turn lights on, materials displayed on walls or stored in sleeves on open shelving are all vulnerable to light damage. While the Center’s permanent exhibit of Ray Bradbury’s reconstructed basement office is rarely illuminated for display unless there is a tour group, standard downward facing fluorescent bulb fixtures without light diffuser panels illuminate all other collection and display areas. While each bulb has been sleeved with ultraviolet light blocking covers to mitigate the light most damaging to paper and associated media, ambient light level from the lamps remains too high for the materials exposed on shelving and on display.

The consultants recommend that CRBS remove items on display in the main work area until lighting can be held in check at 50 LUX—the museum standard for the exhibition of paper materials. In the meantime, facsimiles of posters, art, and tear-sheets should be displayed until CRBS can replace fluorescent lights with LED lighting, which does not contain harmful UV light. To achieve 50 LUX throughout, the Center plans to install a dimmer switch and use task lighting in the research and preservation areas.

¹ Onsetcomp.com, “Preservation Management | Onset HOB0 Data Logger,” ONSET, accessed March 30, 2019, <https://www.onsetcomp.com/applications/preservation-management>.

² “Light Commercial,” Mitsubishi Electric Cooling and Heating, accessed October 22, 2018, <https://www.mitsubishicomfort.com/products/light-commercial>.

³ “Light Commercial.”

⁴ University Products, “Visible Light Meter,” accessed October 22, 2018, <https://www.universityproducts.com/visible-light-meter.html>.

3. Air Filtration

The consultant team strongly recommended that CRBS explore ways to establish measures to maintain proper air filtration throughout the Center, and especially areas designated for collection storage and use. As the full installation of the environmental control system will be done as part of a larger renovation project, CRBS staff plan to consult with IUPUI Campus Facility Services to explore short-term options for air filtration and environmental control.

4. Pest Management

An integrated pest management program must also be implemented to safeguard materials from infestation. With protocols for processing new materials and strict procedures for all collection/storage use areas, a pest management program is an important component of collections management. As insects and rodents may find materials like paper, glue, leather, and textiles appetizing (all of which are present in the Center's collections), CRBS must mitigate the possibility of pests in the Center by enforcing policies that promote good housekeeping, thereby protecting its collections for years to come.

Before allowing the new materials to enter the Center's premises, staff will inspect donations and purchased materials for possible infestation from mildew, mold, rodents, or insects. If an artifact appears to be infested, CRBS staff must sequester questionable materials in a Rubbermaid container with an airtight fitted lid and request assistance from a professional conservator, who may need to vacuum or freeze the artifact to remove the infestation.

5. Disaster Preparedness

Recommendations from the on-site archival and preservation consultants include the development of a disaster preparedness plan to stage supplies and establish emergency procedures with a first response team. The first step in this process involves creating an emergency kit of tools for mitigating damage in the aftermath of a water or fire emergency. The Museums & Galleries of NSW⁵ recommends procuring a number of items to have readily available. This list is provided in Appendix A: Disaster Preparedness—Equipment Hire and Emergency Machinery. The second step involves creating a formal disaster preparedness and response plan that details specific duties assigned to staff, interns, and trusted volunteers.

After CRBS acquires these emergency materials, the consultant team recommends that CRBS assemble and maintain a disaster preparedness plan by using an on-line disaster planning tool, such as the one provided by Dplan.org. Part of this plan calls for identifying local conservators willing to establish and participate in a network committed to aiding the network's client organizations in the event of an emergency by sharing resources and/or labor after a disaster.

6. Water Detection

⁵ Museums & Galleries NSW, "Shopping List: Flood Recovery," Museums & Galleries NSW, accessed October 22, 2018, <https://mgnsww.org.au/sector/resources/online-resources/collection-care/shopping-list-flood-recovery/>.

In addition to procuring the items listed in Appendix A, the consultant team also recommended purchasing and placing battery-operated or wireless audible water sensors near all active water pipes adjacent to the Bradbury Office exhibit. The team also recommended that CRBS purchase 4" waterproof pallets and place Bradbury's filing cabinets on top of these pallets, so that in the event of a water emergency, water will not damage the materials within the cabinets. These pallets will also expedite the movement of individual file cabinets by pallet jack to a dry location.⁶

Preservation Plan Item 3: Handling and Use of Collections

The consultant team emphasized the importance of establishing a full set of procedures for the handling and use of collections. CRBS must train staff and interns to follow these procedures as they handle, retrieve and re-shelve items in their care, and these procedures must be on display for patrons who visit the Center. If patrons will be actively using the collections, they will have to fill out a form noting that they understand and will follow these procedures, and staff should plan to work with patrons during their research.

To create these procedures, CRBS staff referred to professional guidelines available for handling archive collections and handling museum objects.⁷ CRBS will adopt these guidelines until a dedicated, full-time archivist can be hired to fully adapt these best practices to the CRBS context. Examples of these procedures are outlined in Appendix B—Basic Handling Procedures.

Preservation Plan Item 4: Storage Model

The consultants noted that the standards for material storage and preservation encourage an efficient storage system, as this helps create space for collection management duties and future growth while helping to ensure preservation of the material's physical structure(s). Having a set storage model, including policies on management, is an important component of the overall preservation planning project.

The Center has begun creating a storage model based on museum best practices. Materials of like structure (such as archival records, maps, manuscripts, photographs, etc.) should be stored in distinct areas inside storage furniture and storage should not inhibit access by staff. The size and quantity of storage areas will be determined based on collection inventory and forecasting. In order for CRBS to follow this recommendation and secure this storage equipment, it will have to expand its spatial perimeter. This expansion will allow the Center to establish a number of policies for its storage model, with an early version of this model available in Appendix C—Storage Model.

⁶ "Cleanroom Pallets, Small Hygienic Plastic Pallets - FUREIN," *FUREIN Plastic Pallets* (blog), accessed October 22, 2018, <https://fureinpallet.com/plastic-pallets/hygienic-plastic-pallets/cleanroom-pallets/>.

⁷ Museums & Galleries of NSW, "Handling Museum Objects," *MGNSW* (blog), accessed April 4, 2019, <https://mgnsw.org.au/sector/resources/online-resources/collection-care/handle-museum-objects/>; Creighton Barrett, "LibGuides: Guide to Archival Research: How to Handle Archival Materials," Academic, Dalhousie University Library, accessed October 22, 2018, <http://dal.ca.libguides.com/c.php?g=257178&p=1717149>; Library of Congress, "Care, Handling, and Storage of Books - Collections Care (Preservation, Library of Congress)," web page, Library of Congress, accessed October 22, 2018, <http://www.loc.gov/preservation/care/books.html>.

Preservation Plan Item 5: Professional Care and Treatment

The consultants recommended that the Bradbury Center hire a full-time archivist to assist with the management of the collection. As collection preservation surveys represent an important aspect of conservation-based decision making, having a professional train and supervise interns who will conduct the actual surveys is of utmost importance. The archivist will help interns and volunteers to identify at risk materials, determine treatment priorities, provide customized storage, and make treatment recommendations for items in the collection. They will also create procedures and policies, generate reports on various preservation surveys and present solutions to conservation challenges, assist with grant research and preparation for preservation projects, and develop an overall collection management plan to ensure processing and preservation of all materials.

Preservation Plan Item 6: On-site Exhibits

The consultant team emphasized that museum patrons respond well to gallery displays that represent a story or idea rather than a digest of items on display. To increase the number of visitors to its museum, the Bradbury Center should focus on creating compelling stories for each new exhibit as the staff rotates materials in and out of the museum space.

A key consideration for on-site exhibits is light. As mentioned in Preservation Plan Item 2, the amount of light that can be safely used in exhibit spaces varies according to the type of organic materials on display. Given the nature of the Center's artifacts and their age, the NEH consultant team offered the following recommendations for on-site exhibits:

- To avoid cumulative dust and light damage, the team recommends that the Center establish a policy that all exhibits should be placed on a rotating schedule.
- Reduce the level of light in the reconstructed Bradbury Office exhibit by removing one of the fluorescent bulbs from each unit. Purchase and install light diffuser panels for each unit.
- Plan to install LED lighting (which does not contain harmful UV light) in any existing or renovated space. Use dimmer switches and task lighting in research areas to achieve 50 LUX throughout the Center.
- Upgrade the Center's air filter and environmental control systems to reduce possible accumulations of dust from the atmosphere, and especially for the Bradbury Office exhibit.
- Avoid cases and mount materials that are acidic or can emit harmful acidic compounds or formaldehydes by using acrylic with sealed wood or metal casework.

Preservation Plan Item 7: Off-site Exhibits

As CRBS continues to evolve into a national museum, archive, and outreach center, it should anticipate loan requests for exhibits in other institutions. The consultants outlined the following protocols for loaning artifacts for off-site exhibits:

- Consult museum standard loan forms in the field approved by the American Association of Museums, including a Facility Report⁸ and Loan & Insurance Forms⁹.
- Examine facility reports from borrowing sites concerning environmental control, lighting, security, professional staff and handling issues. Consult a conservator for advice in interpreting the report as needed.
- Document condition of collection items to be loaned with photographs and written descriptions.
- Prepare loaned items for travel to borrowing institution and arrange transport according to museum standards.
- Examine items upon return from exhibition.
- Examine all items to be exhibited in-house.
- Insure exhibit cases used for display are not made of potentially harmful materials: plywood, strand board, or any woods containing adhesives and formaldehyde.
- Insure lighting equipment in all collection areas does not emit UV light, can be re-positioned to avoid spot lighting and dimmed to 50 lux or 5-foot candle as measured on light meter and monitor as required.
- Conserve or stabilize items for exhibit and make recommendations regarding handling, mount, and length of exhibition. Contact conservator for advice and/or physical stabilization or treatment.
-

Preservation Plan Item 8: General Housekeeping

One of the primary concerns of the NEH on-site consultation involved the building environment housing the Bradbury collection. Cavanaugh Hall's outdated climate control systems and the cramped space allotted to the Center present a number of hazards to the holdings. Center staff currently cover the reference library and the reconstructed Bradbury office in 3-millimeter plastic sheeting in an effort to mitigate water damage, with this sheeting only removed for tours or other special events. One of Bradbury's writing desks is topped by a vitrine that protects numerous small artifacts, and other artifacts on display are protected from dust by acrylic covering. During its planned renovation the Bradbury Center will install water mitigation and fire suppression systems, but until then Center staff will continue to vigilantly cover the collection at all times.

The NEH consultant team recommended a number of other housekeeping practices to preserve the collections: avoiding the use of spray polishes, household cleansers, and solvent based solutions; carefully vacuuming the surfaces of all objects that have evidence of dust from open display; dusting with microfiber cloths or soft brushes when use of a vacuum is not practical or safe; and consulting with a conservator on appropriate cloth, wood, laminate, padding, and paint products before introducing new materials.

⁸ AAM-US, "The American Alliance of Museums," accessed June 5, 2019, <http://ww2.aam-us.org/home>.

⁹ Esme Fairbairn Foundation, "Simple Loans Administration" (Bolton Museum and Archive Service, October 2007).

Longer-term housekeeping recommendations from the consultants include relocating office copiers and printers as soon as possible, as ozone, dyes, and pigments emitted from office copiers can harm pieces of the collection over time. The consultants also recommend relocating the collection during renovations, especially carpet installation, as acids and polymers inherent in new installations of carpet and painted surfaces are volatile contributors to the storage and exhibit environment, causing degradation to papers, textiles, and leather materials.

Findings 2: Digital Preservation Plan

Jenny Johnson, MLS, Digital Scholarship Outreach Librarian for the IUPUI University Library and Interim Co-Director of the Library's Center for Digital Scholarship, served as the primary digital consultant for this preservation planning initiative. Her work involves developing digital projects with IUPUI faculty and local community organizations and guiding the processes of funding and making historical documents and artifacts available online while following digital library best practices.

As the Center for Ray Bradbury Studies is considering digital preservation for many high-risk artifacts, Johnson highlighted several key actions that must be included in the process of decision making. Using the Collections Digitization Framework¹⁰ as a guide, she provided a framework for selection criteria, copyright, digitization, metadata creation, preservation, and access:

Collections Digitization Framework.

1. Decide: Qualify collections and items for digitization to support the library's mission.
2. Deploy: Identify and mobilize required resources to support digitization activities.
3. Digitize: Generate digital surrogates for physical items selected for digitization.
4. Describe: The creation, collection dissemination, and management of metadata to describe digitized items.
5. Deposit: Facilitate submission of digital surrogates to appropriate local, archival, or access servers and repositories.
6. Display: Provide support for presenting, searching, and discovery of digital items through appropriate servers and systems.

The overall research for preservation planning focused primarily on processing and preserving the physical materials of the collection. For this reason, digital preservation will be revisited at a later date. Details of the digitization framework, however, are included in "Appendix D: Digital Selection Criterion" and will be relied upon when the more pressing needs outlined in "Findings 1" are thoroughly addressed.

¹⁰ Karim Tharani, "Collections Digitization Framework: A Service-Oriented Approach to Digitization in Academic Libraries," *Partnership: The Canadian Journal of Library and Information Practice and Research* 7, no. 2 (December 7, 2012), <https://doi.org/10.21083/partnership.v7i2.2010>.

Findings 3: Research and Collection Access Policies

The following research and access policies and the preservation priorities were developed in joint consultation with Laura Schmidt, MSI, Archivist at the Marion C. Wade Center at Wheaton College and Justin Seidler, Archivist & Special Collections Librarian at the Methodist Archives at Albion College with the intent of aiding researchers in their access to materials while also maintaining the security and condition of the collection. These policies are also established to protect Center staff time and resources, provide income for services that go “beyond the call of duty” or offer support for commercial endeavors, and aid the Center staff in recording usage statistics to better understand how the collections and other resources housed in the Center are being used.

As the Center develops finding aids and inventory listings (See processing plan in “Findings 4: Processing Plan Priorities by Material Type.”), these may be made available to the public via the Center’s website or other methods as long as they do not contain sensitive information or suggest access to restricted materials. Center staff feel confident that they can handle inquiries while maintaining security and access protocols, and the material in question can be both successfully retrieved and put back in the proper location while they are in use.

Schmidt and Seidler noted that the Center may benefit by providing collection guides to on-site researchers, affording a “trial run” for the newly developed policies to determine their use and efficacy for research purposes. After receiving feedback and making necessary adjustments, the Center may want to consider making these collection guides available for off-site or online access.

Since the Center’s reading room currently shares the same space as the collection storage areas, stringent and clearly articulated security protocols must be established. This will include maintaining good visibility of researchers while they are using materials, ensuring that file cabinets remain locked with keys accessible by staff following established procedures, ensuring that collections are stored securely, and other protocol strategies. Staff should be expected to follow additional guidelines on workstation maintenance, including promptly filing materials and logging out of computer terminals when work areas are left unmonitored.

In addition to security policies, CRBS should create specific policies for research and access, including:

- Reference questions:
 - Requests handled by staff, and the limits which staff have for such questions.
 - Requests handled by proxy researchers.
- Photocopy requests (for physical copies) and rates for on- and off-site requests.
- Digital copy policies for images taken by researchers and/or provided by CRBS staff.
- Photo loan requests for commercial, personal, and research/educational use.
- Reading Room protocol and guidelines:
 - What may researchers bring into the Reading Room with them, and what should remain outside of the Reading Room? Where do researchers securely store property that cannot remain in the Reading Room?

- How may materials be used? (i.e. how many folders at a time, how are materials requested and returned, how much time should be allowed for material retrieval or requests.)
- What technology may be used in the room? (i.e. personal scanners, cameras, computers.) How can visitors access Indiana University's wi-fi system?
- Researcher information forms / applications (including how to schedule appointments or apply to come for a research visit, along with related logistical information.)
- Preferred citation formats for different collections of the Center (once material stored here is cited in a published work, how will other researchers locate the same items should they also visit the Center?)
- Copyright permissions and protocol for any collections requiring this for reproduction or publication.
- Call slips or request forms for various materials in the Center, particularly once call number systems and processing initiatives have begun in earnest.

Schmidt and Seidler also noted that since the Center experiences difficulty with reliable mail delivery via the campus mail system, all communications with researchers and patrons should be encouraged through phone, email, or social media whenever possible to avoid misdirected physical mail.

Findings 4: Processing Plan Priorities by Material Type

Processing the materials in the Bradbury Center will take a great deal of time, staff work, and resources. The following processing plan considers the collections by material type, noting processing priorities as needed, and represents the first step to creating a long-term processing plan. Implementation of these recommendations will rely greatly on available resources and current research value and interest, and Center staff should strive to be sensitive and judicious when making decisions on processing. Materials relating to Bradbury's more popular titles, or popular research topics, should be given higher priority and/or be clearly identified in the related metadata and finding aids created as processing work proceeds.

In response to the current lack of professionally-trained archival staff at the Bradbury Center, the consultant team recommends that, whenever possible, interns studying archive or library management be hired. Once a professional archivist is hired, they may recruit volunteers to assist them and/or hire students to help with processing the collection.

The recommendations below provide an outline for various processing initiatives. Staff will need to develop appropriate workflows and procedure manuals as these initiatives are implemented, and methods of training (and re-training) staff over time as new members join the Center and assume different responsibilities. These policies and workflows should be viewed as organic documents that can be refined over time via trial and error to discover the best methods for efficiency, description, and organization.

Processing Type 1: BOOKS

General recommended processing practices for the book collections include the following:

- Cataloging by a trained cataloger and putting records into WorldCat.

- Assigning Library of Congress (or other valid cataloging system) call numbers and shelving by call number (with the exception of Bradbury's personal library books, see notes below.)
- Placing rare book ID strips in the books to put the LC call numbers on the cards and a barcode to match the catalog record (this will avoid placing adhesive labels on the books themselves.)
- Writing the accession number and the call number in pencil in the back of each volume to establish ownership of the books by the Bradbury Center, and to aid identification if the rare book ID strip is misplaced.
- For fragile volumes, book pillows and book weights should be provided, and basic rare book handling procedures should be communicated to researchers.

Priority #1 – Bradbury's Personal Library books

Inventory listings exist for these volumes (including some that were in Bradbury's home, but are not at the Bradbury Center), complete with publication information and inscription notations. These volumes receive the highest processing priority due to the existence of the inventories and the uniqueness of the volumes—they were owned by Ray Bradbury and are therefore irreplaceable. Volumes not in the Center's collections should be placed in a separate part of the listing and clearly identified as not available for on-site use.

Volumes from Bradbury's personal library should remain separate from the other books in the Center and be clearly identified as "Author Library" books with appropriate security and storage measures. The inventory listing should, ideally, become a shelf listing once a basic call number system is established for the book shelving (example: shelving unit number and shelf number). The shelf listing should note this numbering system and be ordered in the same order as the books on the shelves.

Eventually, the books in Bradbury's library should be cataloged and put into WorldCat. The books could be assigned Library of Congress call numbers, but shelving by LC number may prove impractical as Bradbury's original bookcases in the office exhibit vary significantly in size. Additionally, the Center administration has expressed the desire to keep these books in a less formal shelving order as that is the way Bradbury himself stored his library. The current placement of the books should be fine.

A completed list of Bradbury's library that includes the shelving order, shelving call numbers, shelf list, and citation details can be converted to a PDF file and made available on the Center's website. From this, researchers may request those volumes they wish to see. Center staff should create a simple check-out form for patrons to request these books; staff can then process the request and ensure they are signed back in for security purposes. Direct supervision is advised when researchers are handling these books as such books should never leave the premises.

Priority #2 – Author Stock Copies of Works by Ray Bradbury and all Primary Works

Author stock volumes include primary works (by Bradbury) that were in the author's personal possession. The consultant team recommends that these works be grouped and shelved together by LC call number, while identifying those volumes that were part of Bradbury's personal collection via accession or other method as decided by Center staff.

When presented with multiple, identical copies of editions with no distinguishing or unique features the Center must determine how many copies to keep (recommended no more than 3 copies in the best physical condition) and deaccession the others either by sale (as a source of income for the Center) or by gift. This practice will ensure that shelf space is being used efficiently, allowing for future collection growth through new acquisitions. Once the Center gets additional shelving space, one copy of each of Bradbury's titles could be available in the Reading Room, and the other copies stored in closed stacks to increase security of the collections while still supporting researcher access.

Primary book titles will also include translations of Ray's work in other languages. These translated editions will require processing by a professional cataloger. Such processing holds less of a priority as the anticipated research audience that will use the collection will require primarily the English editions. As such the processing of foreign editions can wait until adequate funding permits the hiring of a qualified person.

Priority #3 – Reference Collection Books

Reference collection book titles include genre fiction novels, anthologies, and academic publications among others that correspond with the primary genres to which Bradbury is primarily affiliated. Some of these titles have been accessioned and organized according to author last name and title. Additional smaller component collections within the larger collection are also organized according to publication year. Two ancillary collections, the Casebeer Collection and the Touponce Collection, have not been incorporated into and organized within this reference collection yet and are stored separately. Since the unprocessed components of these collections will eventually be incorporated into the existing reference collection, all reference items will be treated as a single, partially processed entity for the remainder of the narrative.

The consultant team noted that the reference collection may remain in the CRBS reading room area as browsing copies, and the processing procedures for this collection will be relatively straightforward. However, processing of both Bradbury's personal library and author stock should be prioritized over the reference library for three primary reasons: the majority of the titles within the reference collection are commercially available or replaceable; this collection is not directly connected to Ray Bradbury; and the sheer size of the collection will delay the processing of the other two if it is done first.

Processing Type 2: FILING CABINETS

The filing cabinets in CRBS's collections represent the richest source of archival materials and is also the largest hurdle for processing as there is no discernable filing schema, often requiring an item-level assessment and processing initiative. Seidler and Schmidt noted the following types of collections in the cabinets in various states of processing and organization:

- **Cabinets owned by Ray Bradbury** with his filing structure (or lack thereof) still in place. This category includes cabinets from his two homes (Palm Springs and Los Angeles).
- **Cabinets not owned by Ray Bradbury** that contain loose papers from his home, dubbed the "Lost Papers" by CRBS staff, have already undergone some reorganization, digitization, data entry into Past Perfect, and assessment.
- **Cabinets with "virtual collections,"** containing photocopies of related Bradbury materials from other private and institutionally-owned collections.

In addition to filing cabinets of Bradbury's own papers or photocopies of related Bradbury materials, there are several filing cabinets that relate to CRBS and its operations, including information on publications and general administration. These filing cabinets are staff-use only, and do not require a call numbering system.

Creating a series of finding aids may be necessary in each stage of reorganization, so that staff and researcher access can continue during the overall organizational process. Once all of the cabinets have been organized, a final cabinet numbering system, folder call number system, and finding aid(s) should be implemented keeping in mind to leave room for growth in different parts of the collection as new materials are acquired.

For the item-level correspondence metadata and images already entered into the PastPerfect catalog, this information and software should be evaluated based on recommendations in the digital initiatives section of this report. The consultants recommend that the Center staff refrain from further item-level description or digitization (outside of the "Special Letters" selections) until the greater organizational processing schema is established and a better understanding of which "gems" deserve item-level description and digitization has been determined.

Priority #1 – "Lost Papers" Cabinets

The "Lost Papers" cabinets include a variety of materials originally stored on the floor and/or not filed at all in Ray Bradbury's home. The Center staff has already begun to reorganize these files and list their contents topically. The staff has also digitized a control group of roughly two drawers-worth of correspondence files from 1969-1973 including image scans and item-level data entry into PastPerfect software for museum cataloging. The staff has since prioritized a selection of high-profile or "special" letters with notable individuals for the next phase of digitization. The consultant team recommends that staff establish physical organization and intellectual description of the cabinet contents before further digitization work occurs, so that future digitization work can focus on items of greater value or significance, with this group only becoming obvious once physically organized. The recommended approach to processing these papers is to separate the files by material type and/or topic as appropriate. This can include but is not limited to correspondence, manuscript materials, and publications. Storage by material type will best support the preservation needs of similar materials, and will also greatly improve access and intellectual control of cabinet contents.

Priority #2 – Ray Bradbury's Personal Cabinets from Palm Springs and Los Angeles

Center staff plan to leave Bradbury's personal cabinets in situ until the Lost Papers cabinets are organized and cataloged, largely due to limitations of staff time. The consultant team confirmed with Center staff that there appears to be no clearly defined strategic organizational pattern to Bradbury's original filing system, and the organization of these cabinets is of great importance for both staff and researchers.

A folder level inventory of all of Bradbury's cabinets has been created. Once this is refined, the consultant team recommends reorganizing all of the cabinets to match the schema of the "Lost Papers" then integrating the two sets of materials. Adding accession numbers and maintaining the original order inventories would still preserve the original order intellectually, as well provenance information, while enabling good physical access for staff and researchers.

According to the consultants, the only cabinets that Center staff should consider maintaining in their original order are the three full-size file cabinets housed in the reconstruction of Ray Bradbury's office.

These cabinets appear to have some sort of organizational schema of research value, and appear to be working files for the author from the latter half of his career. Seidler and Schmidt emphasized that if these three independent file systems remain in situ, it is imperative that staff find a creative way to cross-reference their contents into the greater organizational schema of the other cabinets so that good access routes can be established and their contents easily identified/located. If some sequences do not fit this schema, it will be difficult for staff to check various holdings “pockets” when assisting researchers or answering reference questions.

Priority #3 – Virtual Collections Cabinets

In addition to the Bradbury filing cabinets, the Center also houses copies of materials from other collections, either private or institutionally-owned. The establishment of consistent record-keeping procedures for each accession record of these materials remains a priority. It is imperative that clear accession records are established for each grouping of these materials to improve accessibility. Additionally, many of these materials are currently the personal research copies of Dr. Eller, and as such are not officially part of the Bradbury Center collections. Dr. Eller must contact each owning individual or institution to establish clear guidelines on whether or not these materials may be accessioned by the Center and define how these materials may be used by researchers. Any documents outlining these agreements should be stored in the accessions file.

The files in these cabinets appear well-organized compared to the others, so other than seeking permissions to accession the materials into the official Bradbury Center holdings, the processing of these files is a lower priority. Should these files become accessions, staff must decide whether to integrate these files into the greater organizational schema of the collection, or keep them separately since the originals exist elsewhere. The consultant team remains neutral on this decision as long as the accession process provides clarity on the origin and use of the papers.

Processing Type 3: PERIODICALS

The periodicals collection includes a large variety of pulp and slick magazines, most of which were from the personal collection of Ray Bradbury. The consultant team recommends that these be accessioned and cataloged, similar to the books collection. Magazines that were owned by Bradbury should be clearly noted. Storage may be by alphabetical journal title, then by issue number, and later by LC number once they are cataloged. Some of the collection has already been placed in plastic sleeves and put into archival boxes; the rest of the collection should follow suit once funding allows for purchase of these materials. The plastic enclosures used should be of archival quality, and uniform labels may be applied to the sleeves and boxes for easier retrieval as staff see fit. Oversized periodicals should also be grouped together in larger boxes or on shelves that will support their specific preservation needs (typically, deeper shelving, lower to the ground, is suitable for oversized materials).

Duplicates in this section should be handled in the same manner as the books section described above. Due to spatial limitations in the Center requiring a single space to serve as a reference library, storage facility, reading room, and conference room, the consultant team suggests that an alternate storage location be found for the periodicals collection as such materials prove more difficult to replace than the reference books and may thus benefit from an additional level of security. Prior to cataloging the periodicals, Center staff should create an inventory listing by title and date/issue range, and they should make this available to researchers.

Processing Type 4: PHOTOGRAPHS

Photographs have unique preservation needs and must receive different treatment than standard paper documents. As photographs are sensitive to light, abrasion, fingerprints, and a number of other environment influences, the consultant team recommends storing such items in archival-appropriate enclosures (non-buffered neutral PH seamless envelopes or mylar sleeves), and placed in boxes or file drawers, labeling each photograph with a call number schema (home-grown is suitable), and creating separate listings and finding aids. Photos featuring Ray Bradbury versus those that do not may be an appropriate way to begin organization, then filing by date. Oversized photos will need to be stored separately, preferably in the metal map case already owned by CRBS, or in oversized boxes that can be stored securely on appropriate shelving.

Photos will require item-level description and benefit from digitization to gain better access to, preservation of, and intellectual control over the collection. Note that for use of photos, the copyright owner is the photographer. The photographer should be noted in the metadata whenever possible, and the Center should contact living photographers to identify the rights of the Center for photo loaning policies and usage rights both for the Center's own work as well as for requests received to use the photos in publications, for private research consultation, and/or any form of public programming or recording.

Processing Type 5: POSTERS / OVERSIZED DOCUMENTS AND PHOTOS / ARTWORK

Large pieces either in printed formats or original (unframed) artwork should be stored in the map cases already owned by CRBS by material type and size (i.e. all oversized photos together, large photos stored separately from smaller ones). For stable printed pieces of a similar size, multiple items may be placed in a folder as long as a clear call number system is established for description and retrieval. For original artwork, the medium may determine the recommended storage method. The consultant team also suggests determining the preservation needs for each piece and/or talking to museum professionals. Should the map case become full, oversized archival boxes stored flat on suitable deep shelving is recommended. Those items of a more fragile quality or at-risk condition should be given priority for appropriate storage.

Framing is recommended only for those items that can withstand long-term exposure to light, or will be on display for a limited amount of time, preferably less than three to four months.

Oversized materials will require item-level description, and would benefit from digitization to gain better access to, preservation of, and intellectual control over the collection. Image digitization decreases the need to handle the oversized materials, thereby reducing the risk of damage to these materials during retrieval and handling.

Processing Type 6: SCRAPBOOKS

The 2016 Preservation Needs Assessment highlighted the scrapbooks collection as one of the most at-risk areas of the Bradbury Center. The books themselves consist of rapidly deteriorating acidic materials, and the fragile newsprint glued to interior pages has begun detaching from the scrapbook pages and is at constant risk of further degradation. Ray Bradbury created these books during his formative years, so preserving their contents and organization for future scholars remains a high priority.

The consultant team recommends that each scrapbook undergo page-by-page digitization on a book scanner or overhead digital camera. The digital files should be organized, labeled, and accessioned in a

manner that replicates the original organization of the scrapbooks. Before this process begins, Center staff should consult a conservator for specified storage and preservation recommendations. Until the digitization process begins, the collection should be stored in a secure location and handled as little as possible.

Processing Type 7: AUDIO-VISUAL MATERIALS

A variety of recordings in CRBS' holdings exist, most of which were personally owned by Ray Bradbury. The format of these recordings varies, and includes LP recordings, reel to reels, audiocassette tapes, 8mm films, VHS tapes, DVDs, and more. The contents of these recordings are also diverse, including recordings of the author and music he enjoyed among others. The Center, with financial support of Indiana University, has begun to create digital versions of the noncommercial recordings. Copyright law supports the creation of access copies of commercial materials so long as the recordings are accessed exclusively on-site. Recordings that were owned by Bradbury, non-commercial recordings, and obsolete and/or high-risk formats should be the highest priority for digitization.

The consultant team recommends that CRBS store sound and video recordings as separate collections by size. A home-grown call number system and/or shelf/drawer order (both for the analog copies as well as their digital surrogates) is advisable until they can be professionally cataloged. A method of access to the digital files, as well as the necessary A/V equipment for accessing the analog copies in good-enough condition for research use and playback, should be developed and acquired as the Center continues to organize its storage space and expand.

Processing Type 8: ARTIFACTS

Artifacts encompass a broad category of any three-dimensional object. For the Bradbury Center, this includes Bradbury's various trophies and awards, his models and sculptures, toys, and other materials. A number of these items reside in the reconstruction of Ray Bradbury's office and serve to replicate his office setting's original atmosphere. Long-term display of these items remains acceptable as long as they are secured from theft or damage, and their preservation needs are maintained. CRBS plans to consult museum professionals, including conservators, on storage and preservation needs of their collections.

Artifacts require item-level description, and benefit from digitization and/or representative photos to gain better management of the collection. These images will aid in identification of the pieces for both staff and researchers, which is of particular importance since a supporting image enhances descriptive metadata.

Findings 5: Exhibits

The NEH consultant team emphasized the importance of a stable gallery environment for the display of original artifacts to avoid damage. When establishing such environments, Center staff must employ appropriate artifact display cases and other exhibit furniture, and closely monitor gallery lighting, temperature, and relative humidity. While providing conditions that reproduce the storage environment help ensure the safety of the artifact, original materials are best preserved by limiting the amount of time on exhibit to three to four months. For permanent exhibits, or temporary exhibits where macro or micro environments cannot be controlled, the use of digital copies would be the best possible choice for display.

The NEH consultant team directed CRBS to the American Institute for Conservation, which provides a set of guidelines for creating exhibits with preservation measures in mind.¹¹ Special consideration should be given to the following NEH consultant team recommendations:

1. Develop exhibits which rotate an original artifact out of semi-permanent display every three months or employ only temporary exhibits for a total display time of a three-month duration.
2. Use seasonal set points for safe levels of temperature and relative humidity established in the Physical Preservation Plan section of this document.
3. Select artifacts in stable condition which can safely withstand any handling required for the mounting process, and be safely exhibited in the given or improved environment. Consult trained conservators for advice in this area as needed.
4. Consider using digital copies whenever possible.
5. Perform written condition reports for each artifact and include photographs; contract with trained conservators for any treatments that may be required or select an alternate object for display.
6. Select or borrow alternate objects to be rotated for each exhibit period lasting longer than three months.
7. Provide mounts and cases designed to provide integral support and comprised of stable materials that do not emit gas or other harmful elements used in methods or manufacture such as acids, formaldehyde, etc.
8. Meticulously document the objects on display to track how long each are exhibited. (For archives where items are not individually cataloged this can be difficult to track.) Be sure to set up a system for flagging individual files and sleeve each object with an exhibit record. Digitize and use a copy where use of the original is not warranted.

CRBS plans to consult with the American Alliance of Museums to continue their ongoing process of education concerning professional museum exhibition standards.¹²

Developments: Site Visits

As part of his responsibilities as project manager for the NEH Preservation Planning Grant, Jason Aukerman travelled to a number of carefully selected peer institutions, investing significant time learning about each institution's target demographics, programming, development initiatives, facilities, security procedures, and preservation practices. The results of these site visits are detailed in the following subsections and are listed (loosely) in order of significance to CRBS, opposed to chronological order of visit dates.

¹¹ For a full-text library of conservation information, covering a wide spectrum of topics of interest to those involved with the conservation of library, archives and museum materials, see "Conservation OnLine - CoOL," accessed October 23, 2018, <http://cool.conservation-us.org/>.

¹² AAM-US, "The American Alliance of Museums."

Marion E. Wade Center, Wheaton College

Aukerman travelled to the Marion E. Wade Center in Wheaton, IL for a two-day intensive site visit in late October 2018. The Wade Center is the oldest of CRBS's peer institutions and perhaps the most important in the sense that it holds a similar standing at Wheaton College that the Center does within the IU School of Liberal Arts at IUPUI. The Wade Center operates within a college environment where its endowment, rather than college resources, covers their operational costs and outreach programs, as does CRBS. The Wade also boasts a longstanding product marketing program that enriches their public outreach programing. Having established full intellectual control over their primary holdings and serving a broad audience of well over 12,000 visitors (scholarly and public) annually, the Wade Center represents a model that CRBS may follow in the course of growth as a similar institution. In short, the Wade Center has undergone all the major evolutions that research, museum, and archival centers of literary authors typically go through in the course of their functional histories; as a museum, archive, and library, the Bradbury Center hopes to follow a similar path to success.

Wade Center Key Takeaway: Staffing

During the Preservation Planning Grant activity period, the Center employed one full-time employee: the director, responsible for overseeing all publishing endeavors, public and academic programing, and archival management, collaboration between the Bradbury estate and Bradbury's agents, and major gift acquisition. A part-time position has been staffed by a graduate doctoral intern to oversee programing and development, and other interns are hired as grant awards permit. In addition to these paid positions, the Bradbury Center has benefited from a long-time volunteer who diligently works on organizing the collection as well several other volunteers who work in the center intermittently.

As the Center's director Dr. Eller is preparing for phased retirement, Aukerman's visit to the Wade Center was critical to identifying how the future of staffing the Center could be organized. A succession plan was created with input from leadership across the School of Liberal Arts. When Eller entered into phased retirement in July 2019, the School of Liberal Arts hired a Managing Director (Aukerman). When Eller fully retires the Center will hire a full-time archivist, with hopes that this person will have a Master of Library Science degree, a decision informed by Aukerman's visit to the Wade Center.

In addition to these two full-time appointees, the Center should plan to hire two Museum Studies interns each semester who will assist the archivist in processing artifacts, acting as docents for tours, overseeing the reading room/assisting scholars, and arranging/designing temporary exhibitions throughout the year. The Bradbury Center should also consider part-time undergraduate staff positions as well. The Wade Center, for example, employs undergraduate students for 6 to 15 hours per week via federal work study programs. The archivist trains these students on accessioning, cataloging, transcribing, etc.; manages the student work study schedule, and checks the quality of their work. When the Bradbury Center is able to hire a full-time archivist, it should endeavor to hire undergraduate students in a similar capacity. Under the current staffing situation, unless a trusted volunteer is willing to manage such work, the time constraints on the director are too prohibitive to allow for sufficient oversight and focus on these areas.

The J. R. R. Tolkien Collection at Marquette University

The J. R. R. Tolkien Collection at Marquette University in Milwaukee, Wisconsin represents one of the crown jewels of literary library collections in America. This collection was chosen for a site visit because of its existence as a smaller Tolkien Collection (The Tolkien Papers at the Bodleian Library at Oxford University is significantly larger) that still manages to work effectively on an international basis while operating within the Special Collections unit of Marquette University's Raynor Library. The Bradbury

Center, representing the massive collections left by Bradbury at the time of his death, has similar relationships with other, much smaller Bradbury collections at other universities. As with the Wade Center, the Tolkien Collection at Marquette has the same pressures created by large, scholarly and general public interests that consume available resources. Bradbury's status as an iconic figure across American culture attracts similar national and international pressures on our programming, facility, and staffing resources.

Aukerman's NEH grant-funded field research visit took place on October 24, 2018. The information provided here stems from a lengthy interview with William Fliss, MA and MLIS, Archivist for Special Collections and University Archives at Marquette University, on October 24, 2018.

Tolkien Collection Key Takeaways

Separating Archival Responsibilities from the Director Position

Shifting archival responsibilities away from the director and on to a full-time archivist significantly advanced archival work on the Tolkien Collection, and this is something that the Bradbury Center should take into consideration, as the situation speaks directly to the Bradbury Center. A director, focused on fundraising, development, marketing, public outreach and programming, and teaching within the university simply cannot double as an archivist for the Bradbury Center's holdings. The collection's needs are numerous in respect to preserving artifacts and manuscripts, implementing archival best practices, and steadily clearing the backlog of processing the primary holdings, especially manuscripts and correspondence. CRBS' backlog of unprocessed materials far exceeds that of the Wade, Marquette, or any of the other sites that Aukerman visited. In order to competently address these needs, the Center must bring on a full-time archivist with appropriate graduate-level Library Science credentials and cataloging experience.

Planning for Adequate Storage

During a tour of the Raynor Library, the archivist remarked on the importance of storage space, encouraging the Bradbury Center to plan for significant levels of extra storage space. The Tolkien Collection's storage is fully in line with the recommendations provided by the NEH-funded on-site consultation visit for the Bradbury Center in August 2018, including security, climate control, plumbing, UV reduced lighting, and secure satellite storage spaces for additional storage for less used aspects of the collection.

Archival Software

Both Laura Schmidt of the Wade Center, and William Fliss of the Tolkien Collection indicated that PastPerfect—the Bradbury Center's current accession software package—is not an ideal system for data entry involving correspondence, typescripts, or storyboards. Since the bulk of the Bradbury Center's collection is comprised of manuscripts and correspondence, a different cataloging system may be needed. Similar concerns about PastPerfect were raised by Jenny Johnson, the digital preservation expert for the on-site consultant team. Fliss stated that item-level descriptions, such as those needed by PastPerfect, are not necessary for such materials so long as accurate finding aids are available. Such finding aids will make the collection accessible to scholars and will allow visiting researchers to access relevant materials; the timeline for when the Center's collections can be made available for such purposes is significantly shortened by the finding aid approach.

Collection Management

Finally, Fliess highlighted the importance of defining the parameters of the Bradbury Center's holdings. Many Bradbury fans are eager to donate to the Bradbury Center's archives, a situation that the Tolkien Collection is very familiar with. While valuable ephemera associated with single author archives such as the Bradbury Center's are widely available and plentiful, it is simply not possible for small institutions to acquire and curate everything. The Bradbury Center, like the Tolkien Collection, must be keenly aware of its spatial limitations, steward its space effectively, and resist over-extending its resources to take on new materials.

Russell Kirk Center for Cultural Renewal

The Russell Kirk Center for Cultural Renewal in Mecosta, MI is a single-author research center that was selected for a visit due to its history of programming with various colleges and universities as well as its fundraising program. Aukerman made his NEH-funded field research visit to the Kirk Center in early November 2018, spending a weekend at the Kirk Center.

In addition to hosting seminars in their conference center, the Kirk Center also provides research and fellowship opportunities for both aspiring and established conservative scholars, offering housing and resources through their unique archive and reference library. Offsite, the Kirk Center is actively involved in outreach programming via their "Kirk on Campus" initiative. Through this initiative, the Kirk Center endeavors to advance Russell Kirk's philosophy to new generations of undergraduate conservatives. Collectively through these residential and outreach activities, the Kirk Center seeks to "foster the kind of continuity in beliefs, practices, and institutions necessary if a culture is to foster authentic human flourishing."¹³

Kirk Center Key Takeaways

Intellectual Control

While the Center for Ray Bradbury Studies holds a reference library and archive that has likely surpassed the Kirk Center's in terms of volumes and manuscripts, the majority of the collection has not been accessioned and organized, making it nearly impossible for the Bradbury Center to afford the same level of service to visiting scholars that the Kirk Center currently provides. The Kirk Center, along with other peer institutions referenced in this white paper, demonstrates how efficiently an archive can operate once full intellectual control over a collection is attained. By having manuscripts and correspondence organized with meticulously detailed finding aids and stringent re-shelving protocols on hand, scholars can be assisted efficiently. The Bradbury Center's current lack of intellectual control over its holdings cripples its ability to function as a national archive.

More than anything, Aukerman's field research visit to the Kirk Center affirmed that intellectual control over the Bradbury Center's holdings must become a top priority. This necessitates hiring an experienced archivist with an advanced degree in Library Science who is able to direct student workers and volunteers in accessioning, preserving deteriorating items, monitoring the physical environment of the holdings, assisting scholars, actively updating/revising the Center's collection management policy, and above all, organizing the collection and creating finding aids so that the Bradbury Center can operate according to the standards of university level research centers.

¹³ Russell Kirk Center for Cultural Renewal, "About Us."

Expanding the Bradbury Center's Spatial Perimeter

The Kirk family has actively acquired additional properties and houses in the direct vicinity of the Kirk Center, enabling it to host a number of scholars at a given time. The Bradbury Center's current campus footprint of roughly 1,500 square feet prevents it from hosting classes, seminars, and workshops in spite of it being housed in Cavanaugh Hall, a key gateway for the entire IUPUI campus. The space for processing and organizing the collection doubles as a reading room and small meeting area when necessary. Until the Bradbury Center is able to expand into a larger space, it will continue to struggle to provide the educational and scholarly output that a center such as this should be able to provide to the academic community as well as the public.

The Great American Songbook Foundation

In early 2018, the Bradbury Center identified the Great American Songbook Foundation (GASF) as a local peer institution due to its similar preservation challenges. The nature of its large collections of American sheet music and related artifacts dating from the early to mid-20th century are very similar in age and deterioration to the Bradbury Center's own collections. Their programming and public outreach also reflect an interdisciplinary, broad-based cultural impact similar to that of the Bradbury legacy.

In July of 2018, Aukerman made an initial field research visit to GASF, prior to working with Lisa Lobdell, the GASF archivist, as a primary member of the on-site consultant group that convened at the Bradbury Center in August 2018. During his visit he learned that the GASF was in an intermediate stage of development as they were working on plans to move into their own facility and away from their foundational home in The Palladium at the Center for the Performing Arts, located in downtown Carmel, Indiana.

GASF Key Takeaways

Student Employment

Of the four intensive site visits that Aukerman conducted throughout the latter half of 2018, the GASF is one of three archives that boasts an archivist devoting a full-time focus on processing and preserving the archival holdings. GASF, operating as an independent 501(c)(3) not-for-profit organization, consistently employs student interns from nearby university graduate programs in related archival fields. While the Bradbury Center has employed graduate interns from the English Department in the School of Liberal Arts and has also taken on interns from other graduate programs in Museum Studies, Library Science, and Public History, it seems clear that the Center could benefit from a more consistent regimen of bringing in graduate students to help process the massive backlog of correspondence, manuscripts, and other written materials.

Volunteer Management

In addition to managing graduate interns, the archivist oversees a group of 23 dedicated volunteers who assist with archival processing, docent responsibilities, and programming assistance. Most volunteers commit to working on a weekly basis in shifts ranging from one to three hours; some volunteer for multiple shifts.

Volunteer duties vary according to interests and expertise. In the library & archives, volunteers create preliminary inventories of collections; write biographical content and create subject headings; copy catalog library materials in OCLC, LibraryWorld, or OPAC; shelve materials; and barcode materials.

Docents greet guests, assist gallery visitors, and perform general administrative tasks. Program volunteers typically assist with the Perfect Harmony initiatives combining their interests for music and desire to assist elderly persons coping with neurodegenerative challenges.

Since the GASF, like the Bradbury Center, maintains a limited staff, it is absolutely imperative that the Bradbury Center expand its volunteer base to assist with inventory, accessioning, and preservation efforts on the massive backlog of materials still needing to be processed. However, the Bradbury Center does not have sufficient staff to accommodate volunteers who are unable to work independently and efficiently. GASF has greatly benefited from such volunteers from a variety backgrounds, including a retired Information Technology professional from Eli Lilly who focuses on cataloging; a medical informatics expert who focuses on writing biographies and subject headings for key artists represented in the GASF collection—most of this work is completed offsite; a former administrative assistant tasked with inventorying a collection of more than 40,000 pieces of sheet music, responding to sheet music requests from the public, and assisting with exhibit displays; a “FT cataloger” who works long-distance to better organize catalog records; a trained music librarian who handles original cataloging for materials that are not found in OCLC; and many others.

When the Bradbury Center is able to hire a full-time archivist, overseeing and expanding the Bradbury Center’s volunteer base should be written into the archivist’s job description. While Lobdell regrets that the processing is not entirely handled by trained professionals, she agrees that the vast amount of work that a collection requires cannot be accomplished without this help. Although working with volunteers without library or archival expertise may result in various quality control issues on certain projects, the benefits of volunteer labor far outweigh the drawbacks.

Communicating Collection Development Needs

One small detail that could have a profound impact on future collection development for the Bradbury Center is the way GASF publicly conveys its desire to expand its collection. Strategically located under the “Archives and Library” section of its website is a page titled “Donating Archival Materials.” This section succinctly and thoroughly communicates a pertinent aspect of its collection management policy by noting the types of materials that it is interested in acquiring. The page also states materials that Songbook is not currently accepting and provides a concise overview of relevant IRS forms that must be completed by the donor as well as the need for the donor to provide an appraisal for the materials to be donated.

The Bradbury Center, in spite of its massive backlog of materials that need to be processed, is interested in acquiring more artifacts, manuscripts, and letters via public donation. As of July 2019, the Bradbury Center responds to donation inquiries on an individual basis and processes all donations according to the Indiana University Foundation policies and procedures. No active attempt, however, is made to publicly communicate the types of materials that align the mission and vision of the Bradbury Center. In the near future, the Bradbury Center should consider adding relevant acquisition information to its web presence, and it should occasionally draw the public’s attention to this information through its growing social media presence.

PARTICIPANTS AND OTHER COLLABORATING ORGANIZATIONS

Key Personnel

Project Director

Project Director, **Jonathan Eller**, Chancellor's Professor and Director of the Center for Ray Bradbury Studies (Indianapolis, Indiana) oversaw all aspects of this project, including the collaboration with the consultants, advisory board, internal experts, and external partner organizations to achieve the best outcomes.

Paid Staff

Project Manager, **Jason Aukerman**, American Studies Ph.D. candidate and Coordinator for Programs and Development at the Center for Ray Bradbury Studies (Indianapolis, IN) oversaw the consulting team logistics and consulting interaction. He was also responsible for exploring and reporting on peer archival centers in North America, conducting archival research, investigating best methodologies and standards, gathering findings and models, and authoring the white paper using his findings as a basis for his primary doctoral dissertation research. On July 1, 2019, Aukerman was promoted to Managing Director of the Bradbury Center and Clinical Assistant Professor of American Studies.

Outside Consultants

Initially, two out-of-state consultants from similar university archival and museum environments (Wheaton College and Albion College), as well as local consultants from partnership organizations, were recruited to provide oversight for this planning project. Planning activities began May 2018 and ran through April 2019. Letters of commitment were originally obtained from the following individuals prior to the grant application deadline in July 2017:

- **Ramona Duncan-Huse**, Senior Director of Conservation, Indiana Historical Society, Indianapolis, Indiana.
- **Kristi L. Palmer**, Associate Dean of Digital Scholarship in the IUPUI University Library, expert on digital collection organization, Indianapolis, Indiana.
- **Laura C. Schmidt**, Archivist at the Marion E. Wade Center Wheaton College, Wheaton, Illinois.
- **Justin N. Seidler**, Albion College Archivist & Special Collections Librarian, Stockwell-Mudd Libraries, Albion, Michigan.
- **Elee Wood, PhD**, Professor of Museum Studies; Public Scholar of Museums, Families, and Learning; IU School of Liberal Arts at IUPUI, Indianapolis, Indiana.

By the time the NEH grant was awarded in April 2018, two of the local consultants, Professor Elee Wood and Associate Dean Kristi Palmer, had moved on to new positions that prohibited their involvement with the project. Faculty from IUPUI's Public History and Library Science program strongly recommended

Lisa Lobdell, archivist for the Great American Songbook Foundation, (based in the Palladium at the Center for the Performing Arts in Carmel, Indiana) as an excellent replacement for Elee Wood. **Jenny Johnson**, IUPUI's Digital Scholarship Outreach Librarian, (based in Indianapolis, Indiana) also came highly recommended; she replaced Kristi Palmer as the primary digital preservation consultant and became interim co-director of the Center for Digital Scholarship.

Organizational Partners

The following organizations hosted the Project Manager for the site visit research portion of the Bradbury Center's NEH Preservation Planning Grant. Each organization opened its facilities for investigation and directors and archivists from each organization provided lengthy and detailed interviews. Field research pertaining to each site is detailed in the "ACCOMPLISHMENTS" section of this report.

The Marion E. Wade Center at Wheaton College -- Wheaton, Illinois

The Tolkien Collection at Marquette University -- Milwaukee, Wisconsin

The Russell Kirk Center for Cultural Renewal -- Mecosta, Michigan

The Great American Songbook Foundation -- Carmel, Indiana

Other Collaborators or Contacts

In addition to the NEH consultants, the archival and curatorial staff members of the peer institutions visited were key contacts during the peer visitation stage of the project. These individuals include Acting Director of the Wade Center Marjorie Mead, Marquette University Tolkien Collection Curator and Special Collections Librarian William Fliss, and Kirk Center Director Annette Kirk.

IMPACT

Findings from the year-long preservation planning project resulted in the preliminary draft of the Collections Management Plan and related procedural forms. A second key outcome is the initiation of university-level planning for the renovation and expansion of the Center's location. With room for archival storage, exhibit areas, preservation and processing for collection materials, staff offices, a conference room, a reading room, and a reference library, this renovation will transform the way that the Center engages with the public and scholars while addressing the primary concerns that the preservation planning project found.

In addition to this expansion and renovation, a full-time professionally-trained archivist must be hired to oversee the organization and digital imaging of the Bradbury Center holdings as well as preservation interventions required to extend the life of the many at-risk materials in the collection. The Center began working to address these needs in the spring of 2019, before the full completion of preservation planning grant cycle ended.

The best practices identified and recommended by our NEH-funded consultants have already resulted in the ability to mount regularly scheduled tour hours for special groups as well as individual public and university visitors. As of July 2019, these tours have included three groups of foreign visitors enrolled in IUPUI's Program in Intensive English, students enrolled in science fiction and graphic arts/comics history classes, groups from the 2018 MENSA National Gathering, and the 2019 Kurt Vonnegut Museum and Library teaching seminar. Four tour events are now scheduled each month for individuals and small public groups. Cumulative attendance for the tours resulting from the new procedures and display policies includes 120 American and 40 more from a range of Asian, Middle Eastern, and Latin American nations. These numbers are expected to grow, especially once the expansion and renovation is complete.

Expansion and Renovation

In the spring of 2019 the Center began preparations for a \$2.4 million capital campaign to fund the expansion and renovation of the Center into a nationally-recognized museum, archive, and outreach center dedicated to preserving the broad humanities legacy of Ray Bradbury. In May 2019, the Center applied for an Infrastructure and Capacity Building Challenge Grant from the NEH. If awarded, the challenge grant will serve as the cornerstone for this capital campaign. Center staff are already at work with the Development Office to raise the remainder of the funds needed for this project. Indiana University's Space Planning office has already identified and quantified the expansion perimeter for the Bradbury Center, and met with a university architect to gather data on the potential cost of renovation.

The expansion will add more than 2,800 square feet to the Center, creating a modern, secure, and professional museum and research space. A new perimeter entrance will open to a large gallery space which will serve as the Center's main exhibit area and will add two additional smaller exhibit areas for temporary displays to be rotated out on a quarterly basis. Visitors will be able to use a new multipurpose room with a floor-to-ceiling screen to watch films and listen to lectures, and Center staff will use this room for board meetings, donor visits, and community events. A new preservation work area will be created, fully stocked with the tools and resources necessary to ensure the continued preservation, care, processing, and maintenance of the Center's collections. The Center will also renovate staff offices, its recreation of Bradbury's basement office, and its research library, which will be furnished with high-density mobile storage shelving—reducing by a third the space needed for book and library storage. Security systems including perimeter cameras, keycard access controls, an archival-standard fire suppression system, and a ceiling drainage system (to remediate leaks from floors above) will all be installed. Preliminary planning for this project has already begun but will not be finalized until funding is confirmed in accordance with university guidelines. When this project begins in May 2020, IU Capital Projects will bid this project out to architecture and design firms specializing in museum renovation. The Center anticipates that interior demolition and construction will begin in spring 2021. At the completion of this project in 2025, the Center will have grown to more than 4,300 square feet, meeting the goal to expand CRBS' spatial perimeter set by the Center's August 2018 on-site preservation planning session.

Projected Long-term Impact

The expansion and renovation of the Bradbury Center along with the implementation of the preservation plan will advance the Center's mission of curating and preserving the legacy of Ray Bradbury and create new opportunities for larger audiences of people to interact with the author's artifacts and works. Key outcomes of this project include:

1. Preserving the Bradbury Center’s artifacts and collections through physical upgrades, including removal of outdated and dangerous climate control systems; installation of museum-quality fire suppression, heating, and humidity monitors; creation of a preservation work area for examination, condition survey, and preparation of artifacts for exhibitions and loans.

2. Expanding public access to the collections and growing the Center’s public programming and outreach opportunities through the creation of a docent desk and volunteer group to lead tours, allowing greater numbers of people to visit the Center; development of three exhibit spaces with two rotating exhibits to encourage return visits; a partnership with the Bradbury Centennial Trust to provide artifacts for showings at nationally-renowned humanities institutions; and an ongoing collaboration with IUPUI’s nationally-recognized Museum Studies program.

3. Building broader public knowledge of Ray Bradbury’s international literary legacy, his Midwestern roots, and his role as a primary visionary of the American Space Age by developing organizational partnerships, including working with the Waukegan Historical Society and Waukegan Public Library, to highlight Bradbury’s Midwestern Roots; expanding the Center’s presence at international literary events including the World Science Fiction Convention (Worldcon); strengthening social media presence and sharing information about the Centennial project; and working with local and national publications on features about Bradbury, the Bradbury Center, and/or Dr. Eller’s forthcoming final biography volume *Bradbury Beyond Apollo*.

4. Creating meaningful educational experiences for new generations of students and enhancing scholarly research of Ray Bradbury’s life and works through developing a stronger classroom outreach program for undergraduates enrolled in humanities and non-humanities majors at local universities; growing the Center’s educational outreach to encourage local schools to schedule field trips to visit the Center; partnering with humanities professors to design Bradbury-focused classes and syllabi; and publicizing the Center’s collections and reference libraries as a valuable resource for scholars interested in a variety of disciplines.

Bradbury Center staff will also partner with the Museum Studies Program in the School of Liberal Arts to continually assess, monitor, and adjust programming. These analyses will provide insight into the success of the Center’s efforts to advance and preserve Bradbury’s legacy through public outreach. Metrics for success will include walk-in visitors as measured on a weekly, monthly, and semester basis; the number of high school and undergraduate students attending a tour of the Center or participating in a Bradbury-themed program or event, including a guest lecture at their school; growth in social media in terms of followers and interactions; regional and national museum partnerships; and analysis of the number of scholars using the Center’s collections for research, including tracking how these materials play into published articles, theses, books, and more.

Overall, the NEH Preservation Planning Grant afforded the Center for Ray Bradbury Studies the opportunity to meaningfully advance their mission of preserving the legacy of Ray Bradbury. The outcomes of this project have provided the Center with a clear path for how to best care for its valuable collections, a key component of which is its renovation and expansion into a nationally-recognized museum, outreach center, and research archive. Thanks to the NEH, the Bradbury Center will be able to care for its collections and connect with thousands of people for years to come.

Appendices

APPENDIX A: Disaster Preparedness—Equipment Hire and Emergency Machinery

Kennards Hire or Coates Hire

- Wet-dry vacuum
- Portable dehumidifiers
- Portable electric fans and blowers
- Portable generator
- Portable pump
- Portable lighting
- Trolleys for moving crates & heavy objects
- Portable tables

REFRIGERATED TRUCKS

- Refrigerated van and truck rentals

CRATES AND STORAGE BOXES

- Plastic (milk) crates
- Officeworks
- Crate hire
- Kennards Self Storage

BUNNINGS WAREHOUSE OR LARGE HARDWARE STORES

- Crates and storage boxes
- Ladder and step stool
- Heavy plastic sheeting
- Plastic drop sheets
- Plastic garbage bags
- Extension cords (30mtrs grounded)
- Plastic buckets and trash cans
- Water hoses with spray nozzles
- Car wash sponges
- Brooms and dustpans, mops, buckets
- Hard hats
- Rubber and/or plastic aprons

- Rubber boots
- Gloves (rubber/leather)
- Protective masks/glasses
- Torches/flashlights/headlight
- Clothes line (non-staining)
- Fishing line
- Hammer
- Diagonal cutting pliers
- Combination pliers
- Flat tip screwdriver
- Phillips screwdriver
- Cotton twine
- Water spray bottles
- Distilled water

SUPERMARKETS

- Freezer bags
- Polyethylene bags (various sizes)
- Freezer or waxed paper
- Plastic buckets and trash cans
- Paper towels
- Sponges
- Brooms and dustpans, mops, buckets
- Bottled drinking water
- Hand wash
- Disposable wipes

OFFICEWORKS OR SELECTED NEWSAGENTS

- Absorbent paper (blank newsprint, craft paper, blotter, etc.)
- Digital camera
- Batteries to fit a range of equipment
- Scissors
- Clipboards, paper, pens, markers
- Tape (duct, packing, masking)
- Utility knife

JB HIFI OR ELECTRONICS STORE

- Mobile phone rechargers
- Digital camera
- Batteries to fit a range of equipment

CHEMIST

- First aid kit

APPENDIX B: Basic Handling Procedures

1. Prepare all storage enclosures with consistent structures so items may be safely and reliably retrieved and opened. (Example: the long side of any folder will always contain the fold.)
2. Wash hands to avoid transfer of hand oils and soil. Cotton or powderless nitrile gloves are to be worn when working with photographs and metal objects.
3. Support fragile papers with rigid mat board or corrugate e-flute as papers are being processed. Place folders flat on a cleared work surface and keep flat during use.
4. Use only pencil in the research, use, or storage environment.
5. Do not place any object on top of a folder or its contents.
6. Do not write on top of a closed folder or its contents.
7. Do not use sticky notes, staples or paperclips to flag or place mark materials during research.
9. Plan object relocation in advance. (For example: moving from storage to display or work surface.) Move and retrieve collection items along a defined path which remains clear. Use ladders for shoulder height or overhead retrieval.
10. Move oversized folders only with assistance from another person. Place flat on a cart that fully supports the dimensions of the folder.
11. Fully support the structure of books on a V-shaped cradle that corresponds to the weight of the book. Carefully open the book as the binding allows for use.

APPENDIX C: Storage Model

- Prepare the collection for long-term storage in the updated/new facility by procuring appropriate storage furniture and housing supplies.
- Prepare adequate work spaces for several processing staff and/or interns for simultaneous projects that would involve processing, re-housing, preservation treatments and exhibit preparation.
- Prepare adequate space for researchers.

- Where required, house breakable or fragile objects in housings that are padded with Ethafoam to assist safe transport and long-term storage.
- Pursue chilled storage for original AV collections and original color photographs at IUPUI Archive.
- Establish policies for handling, use, and copying materials in the collection. Continue efforts to set optimum standards for preservation.
- Stabilize collections and provide consistency through proper storage techniques by referring to an archival storage model as appropriate.
- Use proper archival storage materials for the variety of material represented in the collection and stay current in professional recommendation and their appropriate use.
 - ❑ Printed and original artworks at CRBS have been sorted by subject and size and placed in standard metal 32" x 48" x 1" flat file drawers. While these objects are not referenced often, placing them inside acid-free buffered folders will ensure they remain damage-free as they are removed from the narrow drawers.
 - ❑ Small format posters placed in smaller folders side by side in the standard flat files will help optimize storage space while preventing possible damage from storing small items inside large folders.

Oversize print formats will be housed in 3" flat files (deeper in depth). The 1" flat files will be reserved for Ray Bradbury icons - original art works and frequently accessed originals.
- Train staff to create customized housings that provide adequate support and protection where the structure of originals is compromised from inherent properties and damage: brittle paper, fragmentation, deformation.
- Establish consistency in storage type / technique / practice by introducing and orienting archivists, interns, and new staff to handling and storage guidelines.
- Create digital and physical facsimiles of inherently unstable materials including Bradbury's original childhood scrapbooks, drawings by Ray Bradbury, thermal paper copies, carbon copies on onion skin, and other valued at-risk items from the collection.
- Physically stabilize or treat collection items as required for digitization, handling, exhibition, and specific research use.

APPENDIX D: Digital Selection Criteria

Digital Selection Criterion 1: Decide

Content Value: *Should* the Materials Be Digitized?¹⁴

Does the content of the material merit the expenditure of effort and resources? Specific definitions of value and importance vary from institution to institution but cluster around intellectual, historic, and physical characteristics.

- How do the materials relate to the institution's collection policy and to its other digital resources?
- Are the materials rare or unique?
- Do the materials provide accurate information in their subject area or contribute to broader or deeper coverage? Do the materials relate to areas poorly documented online?
- Is there a legal need to preserve the materials and make them widely accessible?
- Are the materials important for the functioning of the institution?
- Do the materials support current or new high-priority activities?
- Are the materials aesthetically appealing? Will they display well on-screen?

Intellectual Property Rights: *May* the Materials Be Digitized?

The second major question is whether the institution has the legal right to digitize and mount the materials online. Intellectual property rights should be addressed early in the selection process because the institution may not have the legal authority to reformat the materials, or at least not be able to disseminate digital versions. While institutions have the legal right to digitize materials that are under copyright if the purpose is preservation, the digital versions must be accessed only on the institution's premises. Obtaining permission from rights holders takes time, can be expensive, and is not always possible.

In deciding whether to digitize, therefore, selectors should ask the following:

- Is the purpose of digitization purely preservation, so that dissemination is not an issue?
- If not, does the institution have the legal right to make and disseminate digital copies?
 - If not, is the work or collection in the public domain and its use therefore unrestricted?
 - If not, can permission be obtained from the rights holders?

Aside from copyright issues, privacy may also raise concerns. Do the materials contain personal information that should not, or cannot, be legally disseminated? On a more general level, do issues of religious, ethnic, or community sensitivity make public access to the materials problematic?

¹⁴ Northeast Document Conservation Center (NEDCC), "6.6 Preservation and Selection for Digitization," Northeast Document Conservation Center, accessed October 5, 2018, <https://www.nedcc.org/free-resources/preservation-leaflets/6.-reformatting/6.6-preservation-and-selection-for-digitization>.

Digitization projects must also be considered from the rights holder's point of view. The means and level of access that the institution is willing to provide to its own digital assets have a direct impact on display of digital versions, licensing, and related matters.

- How will the institution control access to and use of its digital assets?
- Will everyone have free, open access to the resources or will restrictions be imposed?
- Will full, high-quality digital versions be mounted? Lower-resolution versions that are undesirable for commercial uses may be too low for serious research use.
- Will the proposed level of access accommodate the type of uses the institution wants to provide to its patrons?

Technical Aspects: *Can the Materials Be Digitized?*

The third question asks whether the institution actually has the technical capability to capture, describe, store, and make digital versions accessible. In brief, digital conversion requires the following:

- Preparation of materials, including physical organization and/or collation, providing description and identification through cataloging and metadata, and any needed repair or conservation work.
- High-quality capture of the content according to national best practices.
- Creation of metadata that record technical, structural, and capture information.
- Possible enhancement and manipulation, as discussed above.

Significant work is also required to mount files, make them accessible, and manage them over time:

- Creating the user interface, with all the necessary searching and navigational tools.
- Managing the website.
- Planning for preservation of the files over the long term.

The technical aspects of digitization for text, images, audio, and other genres influence selection because information can be captured in many ways at many quality levels. The institution must determine whether it can provide digital versions of the quality users need.

- How will digital images and sound be used, and what level of quality does that entail? A temporary online exhibition might call for quite different quality than a site serving in-depth research.
- What features of the original must be conveyed in the digital version? What features are less important? Do viewers want a surrogate that gives a feel for the actual object, one that makes the content easier to use, or both?
- Will the digital version be of high enough quality to be useful in the future, as technology evolves?

Digital Selection Criterion 2: Deploy

Digitization can be performed in-house or outsourced. In-house implies that the center or department is equipped with hardware and software, trained personnel, and the capacity to manage overhead to complete the project.

In-House Digitization¹⁵

Advantages of in-house digitization include:

- Opportunity to learn by doing, develop custom or specialized processes relevant to your institution.
- Ability to define needs, quality, access, and technology incrementally as the project develops rather than all at once at the beginning of a project (through identifying these before starting is part of a good project planning and sometimes required for grant funding).
- Ensure focus of library/archives requirements, or cultural concerns.
- Maintain consistent checks of quality of the work.

Possible Challenges

- Large or initial and ongoing investment of funds and time; institution would be required to buy and maintain equipment, train staff, and be responsible for unexpected costs.
- Sustainable ramp-up time needed to create workflows and implement technology; it takes a significant time investment to build a solid infrastructure.
- No set per-item cost.
- Institution pays for expenses instead of products, including costs of downtime, training, and technology obsolescence.
- Volume and speed of work is dependent on staff time.
- A range of staffing expertise may be required for using technology, applying metadata, dealing with preservation problems, etc.

If CRBS decides to digitize in-house, it must: consider staffing for the project, additional training and how the work will be carried out-personnel are key to digitization; invest in computers and equipment that suit its needs, including standalone, dedicated digitization units; and have a full understanding of its IT department and be able to work alongside them to achieve digitization and digital preservation requirements.

¹⁵ See “Digital Stewardship Curriculum Page | The Sustainable Heritage Network,” accessed February 5, 2019, <https://sustainableheritagenetwork.org/digital-stewardship-curriculum-page>.

Outsourcing Digitization

Advantages for outsourcing include:

- Cost containment and limited risk.
- Ability to contractually define a timeline to get outputs on time. (This is particularly helpful in working under grant funding or other strict deadlines.)
- Usually involves a set price per item, which facilitates project planning and budgeting.
- Paying for the cost of scanning, not for staffing or equipment.
- Costs of expertise, training, and technology obsolescence are covered by vendor.
- Cost typically lower than in-house figures, although prices vary widely based on outside vendor.
- Vendors may be able to handle larger volume and higher production levels than in-house.
- Broad ranges of options and services available, including imaging, metadata creation, enhancements, processing, encoding, derivative creation, printing, storing and backup, database development.

Possible Challenges for Outsourcing

- CRBS must have an idea of specifications and project goals at the start of the project, must be able to measure these and evaluate if vendor can complete satisfaction.
- CRBS will be removed from digitization work; services most often performed off site. May also want to ensure that the vendor is not contracting out to a third party.
- Chance of vulnerability or risk if vendor is unreliable.
- Vendor could be inexperienced with needs of cultural institutions care.
- Security, handling, transportation issues.
- Vendor could be inexperienced with needs of cultural institutions.
- Must develop Request for Proposals documents, negotiate contracts with vendors, and communicate production and quality requirements-which can be challenges in communication.
- It can be challenging to refine requirements and negotiate for services.

If CRBS decides to outsource digitization, it must: clearly define project goals, outputs, and materials; communicate metadata or other file needs in writing; establish standards for quality and final product; find a trusted and experienced vendor; create master/preservation copies of all files and have assurances from vendor that it will deliver all requested files and metadata in appropriate formats; create a budget and determine whether to purchase preservation and/or access copies; and fully understand where and how the digital files are stored.

Digital Selection Criterion 3: Digitize

Digital copies play an important preservation role as surrogates protecting fragile and valuable originals from handling while presenting their content to a vastly increased audience. A digital version may someday be the only record of an original object that deteriorates or is destroyed. However, digitization is not preservation – it is simply a means of copying original materials. In creating a digital copy, the institution creates a new resource that will itself require preservation. Unlike microfilm and other preservation media whose longevity is assured relatively easily by proper storage, digital resources face many questions about how their continued existence, accuracy, and authenticity can be assured.

Digital Selection Criterion 4: Describe

Metadata describes the content, quality, condition, and other characteristics of data. Metadata is generally standardized, structured information that facilitates functions associated with data, such as: organizing and managing data; preserving data for the long term; ensuring that data can be indexed and discovered in a data repository; and retaining the context around which the data was captured or created, which is vital in facilitating comprehension and reuse of the data by other researchers.

There are three types of metadata:

1. **Administrative metadata**

- Rights metadata (Intellectual property and use information.)
- Technical metadata (technical details about the object-file format, file size.)
- Preservation metadata.

2. **Descriptive metadata:** Describes a resource, its content, its identifying characteristics and its “aboutness”.

3. **Structural metadata:** Describes how the pieces of a single object fit together and how an object exists in relationship to other objects.

Digital Selection Criterion 5: Deposit

Digital preservation is a series of managed activities necessary to ensure continued access to digital materials for as long as they are needed. The Online Computer Library Center developed a four-point strategy¹⁶ for long-term preservation of digital objects.

1. Assessing the risks of loss of content posed by technology variables such as commonly used proprietary file formats and software applications.
2. Evaluating the digital content objects to determine what type and degree of file format conversion or other preservation action should be applied.

¹⁶ OCLC Research, “Digital Preservation--OAIS-Compliant Metadata,” August 5, 2016, <https://www.oclc.org/research/activities/oaismetadata.html>.

3. Determining the appropriate metadata needed for each object type and how it is associated with the objects.
4. Providing access to the content.¹⁷

Digital Selection Criterion 6: Display

A digital content management system is a software system that provides organization and dissemination services for digital collections. There are dozens of commercial and open source options available.

¹⁷ OCLC Research.